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ABSTRACT

One method of evaluating comprehension and language growth consists of analyzing the oral or written answers to questions about stories read to or by students and about visual representations. The method is applicable to various content areas at all levels of instruction. The T-unit or communication unit, the linguistic unit that cannot be further divided without loss of its meaning, is the basic measure for this method. In analyzing language samples, the T-units are identified and the average number of words per unit is figured. In evaluating comprehension, the basic measurement would be the correctness or appropriateness of the response for the situation. The measure beyond that would be the length of the response as measured by the length of the T-unit. It can be demonstrated that the number of words used by students in answering questions is directly related to the types of questions teachers ask. Questions considered to be of lower comprehension level elicit far fewer words than questions asked at a higher comprehension level. (Sample analyses are included.) (TJ)

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TITLE: Evaluating Comprehension

Paper presented at the Annual Meeting of the
California Reading Association of the International Reading Association (11th, Anaheim, California, Nov. 2-5, 1977).

This paper presents a method of evaluating comprehension by analyzing the oral or written answers to questions in reading, listening, and about visual representations. This evaluation method of answers to comprehension questions is applicable in the various content areas of the curriculum at all levels of instruction, as well as in the evaluation of the cognitive levels of oral and written language.

This method of evaluating comprehension and language growth can be applied in any state or federal program for evaluation of learning.

The proposed method of evaluating comprehension is through the analysis of the length of the grammatical

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structures used in oral and written language. The measure of the grammatical structures is referred to as the terminal syntactic unit, abbreviated as T-unit, by O'Donnell, Griffin, and Norris; and the communication unit by Loban.

The T-Unit or the communication unit refers to a linguistic unit that cannot be further divided without loss of its meaning. It consists of a grammatically independent clause with its modifiers. The sentence, "I see a boy with a green shirt," consists of one communication unit. The meaning would be lost if the sentence were segmented into smaller units. The sentence, "I see a boy and I see a girl," consists of two communications connected by the conjunction "and." However, the sentence, "I see a boy and a girl," consists of only one communication unit.

Suggestions for evaluating the comprehension level of language follows:

When writing down oral language samples or transcribing answers to questions which have been tapes:

1. Write everything that is said.
2. Use no capitalizations other than for "I" and proper nouns.
3. Use no punctuation.
4. Complete each word at the end of the line or by beginning a new line. Do not hyphenate words.
5. Write words as they are normally spelled.
6. When a portion of language is not audible on the tape try to determine the number of words you believe to be inaudible

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and write the number in parenthesis.

7. If the ending or beginning of a communication unit is doubtful, listen to the tape recording again.

When analyzing the language samples:

1. Place a slant line at the end of each communication unit. Watch for coordination that is indicated by and, but, not, for, that may connect a compound sentence.

2. Place brackets around the mazes, the series of words, single words, or parts of words which are not part of the meaning of the communication unit. Oh, well, uh, um, and so forth are considered mazes when not meaningful to the communication unit.

3. Count as one word O.K., CRA, nextdoor, roundup, baby-sit, and so forth. Count as two words girl friend, any more, each other, and contractions such as that's, he's, we're, it's and let's.

4. Count the number of slant lines. This indicates the number of communication units.

5. Divide the total number of words by the number of communication units to determine the average number of words per unit.

Suggested expectations for the average number of words per communication unit from the research of Loban are:

Grades:	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
Oral	6.8	7.5	7.7	8.6	9.1	9.5	9.9	10.0	10.7	10.8	11.5	11.7
Written			7.7	6.9	8.2	8.7	9.1	10.4	10.0	11.8	11.2	12.9

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In evaluating comprehension, the basic measurement would be the correctness or appropriateness of the response for the situation. The measure beyond the appropriateness of the response would be the length of the response as measured by the length of the T-unit or communication unit. The length of the response in answers to questions as measured by the communication unit is directly related to the cognitive level of the questions asked. Higher cognitive questions elicit answers that are significantly longer than answers given to lower cognitive level questions.

The following lessons will compare two levels of comprehension for several lessons:

NO. NO. AV.

C.U. WDS. *C.U. Listening - (Lower Comprehension Level)

**TQ: Have you ever heard of a tree who loved a little boy?

1 1 1 ***SA: no/

TQ: What kind of tree do you think this is?

1 3 3 SA: a giving tree/

TQ: What other kind of tree do you think it might be?

1 3 3 SA: an apple tree/

TQ: Do you see him climbing up her trunk?

1 1 1 SA: yeah/

TQ: What do you see?

1 1 1 SA: wood/

1.80 average words per communication unit

* Average words per communication unit.

** Teacher Question

*** Student Answer

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NO. NO. AV.WDS.
C.U. WDS. C.U.

Listening - (Higher Comprehension Level)

			TQ: What do you know about Harry the dog?
1	6	6	SA: [he got] he got dirty in some mud/
1	10	10	SA: [it it] is it about the lady who's singing [sings] next door/
			TQ: Has anyone read any stories about Harry?
3	11	3.67	SA: [oh] yeah/ I read that one too/ I read both of them/
			TQ: Which one have you read?
1	7	7	SA: I read Harry when he got dirty/
			TQ: Why would Harry's ears hurt?
1	6	6	SA: because she's singing too loud/
1	6	6	SA: because someone's screaming in them/
			TQ: Why do you think Harry bit the leg of the piano?
1	9	9	SA: [because because see she the the man didn't] because Harry didn't want to hear the noise/
1	7	7	SA: Harry was going to bite the lady/
			TQ: What would Harry be trying right here?
1	8	<u>8</u>	SA: trying to get some of those music papers/
		6.96	average words per communication unit

Reading - (Lower Comprehension Level)

			TQ: What sound do all of these words have?
1	2	2	SA: short a/

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NO. NO. AV.WDS.
C.U. WDS. C.U.

Reading - (Lower Comprehension Level) cont'd.

TQ: Can you think of a word that starts with short a?

1 1 1

SA: cat/

TQ: Can you think of one that starts with short a?

1 1 1

SA: ax/

TQ: Another one?

1 1 1

SA: at/

TQ: Can you read this word?

1 1 1

SA: tax/

TQ: What happens when you change the /t/ to an /M/?

1 1 1

SA: Max/

TQ: What happens when you change the /M/ to an /l/?

1 1 1

SA: lax/

1.14 average words per communication unit

Reading - (Higher Comprehension Level)

TQ: What is the story about?

4 38 9.5

SA: the little dear wanted the fruit/
the fruit was on the other side of the
river/[so]and he couldn't go to the
other side because there was crocodiles
in the river/ so he had to get across/

TQ: What did the crocodiles do?

1 3 3

SA: they got fooled/

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NO. C.U.	NO. WDS.	AV. C.U.	Reading-(Higher Comprehension Level) cont'd.
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TQ: How?

2	16	8	SA: [well] they thought they were going to get some gold from the king/ but they didn't/
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TQ: How were they going to get the gold?

1	14	14	SA: if they had the big number [and then they would] then the deer would cross on the crocodiles/ [and]
---	----	----	---

TQ: How did she go across on the crocodiles?

2	12	6	SA: they jumped on their back/ and then she stayed across the river/
---	----	---	--

TQ: What would you say about the small deer?

1	5	<u>5</u>	SA: it was kind of smart/
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8.58 average words per communication unit

Concept Formation - (Lower Comprehension Level)

TQ: What do you think is the prettiest color?

1	1	1	SA: blue/
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TQ: Is there another color you also like?

1	1	1	SA: yellow/
---	---	---	-------------

TQ: Do you like the feel of these blocks?

1	1	1	SA: yeah/
---	---	---	-----------

TQ: What does it make you think of?

1	1	1	SA: nothing/
---	---	---	--------------

TQ: What's your favorite shape?

1	2	2	SA: a diamond/
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NO. C.U.	NO. WDS.	AV. C.U.	Concept Formation-(Lower Comprehension) cont'd.
			TQ: What is this shape?
1	2	2	SA: a square/
			TQ: What is the name of this shape?
1	2	2	SA: a circle/
			TQ: What is the name of this shape?
1	2	<u>2</u>	SA: a circle/
1.50 average words per communication unit			
<u>Concept Formation - (Higher Comprehension Level)</u>			
			TQ: How do you know that's a square?
1	8	8	SA: it's because [the] the square has four lines/
			TQ: Tell me about this?
2	11	5.5	SA: the circle's round/ and the circle [it] goes around like that/
			TQ: What else?
1	8	8	SA: [square] because the circle doesn't have any corners/
			TQ: Is there another way?
1	8	8	SA: the circle doesn't have a straight line/
2	10	5	SA: the circle [is is] is curved/ and [the] the square isn't [not] curved/
			TQ: What do you think the circle can do that the square cannot do?
2	8	4	SA: it can't roll/ the circle can roll/
2	9	4.5	SA: the square can't roll/ but the circle can/

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NO. C.U.	NO. WDS.	AV. C.U.	Concept Formation-(Higher Comprehension) cont'd.
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TQ: Why doesn't the square roll?

2	18	9	SA: because it has sides/ when [and] it has sides it can't roll because it's square not round/
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6.5 average words per communication unit

These examples from actual classroom lessons indicate that the number of words used by students is directly related to the teachers' questions. The questions asked in the lessons considered to be of lower comprehension level elicit far fewer words than the questions asked in the lessons evaluated as being at a higher comprehension level.

REFERENCES

- Loban, W. D. The Language of Elementary School Children. Champaign, Ill.: National Council of Teachers of English, 1963.
- O'Donnell, R. C., Griffin, W. F., and Norris, R. C. Syntax of Kindergarten and Elementary School Children: A Transformational Analysis. Chicago: National Council of Teachers of English, 1967.
- Smith, C. T., "The relationship between the type of question, stimuli, and the oral language production of children," (Doctoral Dissertation, University of California, Berkeley, 1974). Dissertation Abstracts International, 1974, 35, 1, 177A-178A. (ERIC Document Reproduction Service No. ED 124 955). Summary of findings published in Research in the Teaching of English, Vol. 11, No. 2, Fall, 1977.
- Smith, C. T., "Evaluating Answers to Comprehension Questions," Research Report presented at the Twenty-first Annual Conference of the International Reading Association, Anaheim, May, 1976. (ERIC Document Reproduction Service No. ED 124 878). (Publication pending Reading Teacher, May, 1978).